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A Research Publication for Providers

The *Combat & Operational Stress Research Quarterly* is a compilation of recent research that includes relevant findings on the etiology, course and treatment of Posttraumatic Stress Disorder (PTSD). The intent of this publication is to facilitate translational research by providing busy clinicians with up-to-date findings, with the potential to guide and inform evidence-based treatment.

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Virtual reality exposure therapy effective for PTSD symptoms

Key Findings: Virtual reality exposure therapy (VRET) was shown to be effective in reducing PTSD, depression and anxiety symptoms in service members diagnosed with combat-related PTSD. Among those who completed treatment, 75% experienced at least a 50% reduction in PTSD symptoms and no longer met criteria for PTSD post-treatment.
Study type: Open label, treatment development study with self-report assessments
Sample: 42 active-duty service members with combat-related PTSD (20 of whom completed treatment)
Implications: The findings suggest that virtual reality exposure therapy can be a useful treatment for combat-related PTSD, but it can also be a challenging treatment for patients to complete and has a high dropout rate. However, patients who are able to complete the treatment see good improvement in symptoms, even when other treatments have failed. Further research with larger samples and comparison groups is warranted to determine effectiveness of VRET compared to existing PTSD treatments, identify who might benefit most from VRET and examine what aspects of VRET enhance results.

McLay, R.N., Graap, K., Spira, J., Perlman, K., Johnston, S., Rothbaum, B.O., et al. (2012). Development and testing of virtual reality exposure therapy for post-traumatic stress disorder in active duty service members who served in Iraq and Afghanistan. *Military Medicine, 177*(6), 635-42.

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Adaptive disclosure may be effective as a brief treatment for PTSD

Key Findings: The authors investigated a new intervention called adaptive disclosure (AD) to reduce traumatic stress symptoms in active-duty service members. AD incorporates elements of exposure therapy and cognitive-processing therapy into a more concise six-session treatment, while also addressing any experiences of traumatic loss or moral injury. Active-duty Marines with putative PTSD who received AD showed significant reductions in PTSD and depression symptoms, reduced negative posttraumatic appraisals, and increased posttraumatic growth.
Study type: Treatment evaluation open trial with self-report assessments
Sample: 44 active-duty Marines with PTSD
Implications: Adaptive disclosure has preliminary evidence to support it as an effective and efficient option delivered in garrison for service members experiencing traumatic stress symptoms. It may be a promising option for those who are also dealing with traumatic loss or moral injury as evidenced by reduced negative cognitions about themselves and the world, although further research is needed in this area. A randomized controlled trial is planned to test this manualized treatment (with two additional sessions) now that preliminary effectiveness has been demonstrated.

Gray, M.J., Schorr, Y., Nash, W., Lebowitz, L., Amidon, A., Lansing, A., et al. (2012). Adaptive disclosure: an open trial of a novel exposure-based intervention for service members with combat-related psychological stress injuries. *Behavior Therapy, 43*(2), 407-15.

PTSD and depression are linked to neuropsychological deficits and functional impairment independent of TBI

Key Findings: Traumatic brain injury (TBI), which was predominantly mild in this sample, was not significantly associated with deficits in performance on any neurocognitive measures or on cognitive-related functioning but was significantly related to decline in health-related functioning, with or without accounting for PTSD and depression. However, PTSD and depression symptoms adjusted for TBI were associated with functional impairment, as well as decline in neuropsychological performance.
Study type: Prospective cohort study with self-report assessments and computer-assisted neuropsychological tests
Sample: 760 U.S. Army soldiers who deployed to Iraq
Implications: PTSD and depression are associated with more enduring neuropsychological deficits compared to mild TBI, which seems to have limited lasting effects on cognitive performance. These findings highlight the potential utility of pre- and post-deployment neuropsychological surveillance, and stress the importance of prompt identification and treatment of those with psychiatric symptoms and cognitive deficits.

Vasterling, J.J., Brailey, K., Proctor, S.P., Kane, R., Heeren, T. & Franz, M. (2012). Neuropsychological outcomes of mild traumatic brain injury, post-traumatic stress disorder and depression in Iraq-deployed U.S. Army soldiers. *British Journal of Psychiatry, 201*, 186-92.

Optimism may predict resilience among POWs

Key Findings: Among repatriated American prisoners of war held in Vietnam in the 1960s and '70s, those who were classified as resilient (defined as never receiving a psychiatric diagnosis over a 37-year follow-up period) were more likely to be officers, older at the time of capture, or to report shorter lengths of solitary confinement, low antisocial/psychopathic personality traits, low PTSD symptoms following repatriation or greater optimism. Optimism (as measured by a Minnesota Multiphasic Personality Inventory [MMPI] Optimism-Pessimism explanatory style scale) was the strongest predictor of resilience among all of the variables analyzed.
Study type: Longitudinal cohort study with self-report assessments
Sample: 224 repatriated American prisoners of war
Implications: Optimism, the variable accounting for the most variance in resilience (as defined as a lack of psychiatric diagnosis), is the only variable of the six associated with resilience in this study that could be altered through training or intervention. This research among POWs could be strengthened by investigating more psychological, physical and demographic factors and by using different ways to measure resilience.

Segovia, F., Moore, J.L., Linnville, S.E., Hoyt, R.E. & Hain, R.E. (2012). Optimism predicts resilience in repatriated prisoners of war: A 37-year longitudinal study. *Journal of Traumatic Stress, 25*(3), 330-6.

Factors influencing intent to leave the military among combat veterans

Key Findings: Soldiers surveyed six months following return from a combat deployment to Iraq who reported lower perceived organizational support or screened positive for anxiety were more likely to report intent to leave the military, even after accounting for other organizational climate, mental health and demographic variables.
Study type: Cross-sectional study with self-report assessments
Sample: 892 soldiers of an infantry brigade combat team previously deployed to Iraq
Implications: The findings suggest that military organizations should strive to improve organizational support in order to retain valuable service members. In addition, encouraging treatment for mental health problems may also prevent service members from leaving the military. Future studies should investigate other potential factors involved in intent to leave the military, such as family separation and other career aspirations.

Wright, P.J., Kim, P.Y., Wilk, J.E. & Thomas, J.L. (2012). The effects of mental health symptoms and organizational climate on intent to leave the military among combat veterans. *Military Medicine, 177*(7), 773-9.

PTSD symptom improvement in patients with comorbid PTSD and substance use disorder

Key Findings: Veterans with posttraumatic stress disorder (PTSD) and comorbid substance use/dependence disorder (SUD) showed greater improvements in PTSD symptoms following specialized inpatient/residential PTSD treatment programs than veterans who had only PTSD alone, although the effect size of the difference was modest. These unexpected findings were repeated in a second sample and are attributed primarily to improvement in comorbid SUD symptoms.
Study type: Treatment outcome study with clinical and self-report assessments
Sample: 8,599 Veterans admitted to VA specialized inpatient/residential PTSD programs that did not specifically address SUD
Implications: The findings of this study show that there may be a synergistic effect in the treatment of PTSD and SUD, and further research is needed to identify the mechanism behind this effect. Clinicians should not be reluctant to treat PTSD patients with comorbid SUD due to concerns about SUD being an obstacle to successful PTSD treatment. To the contrary, these patients may have even better PTSD outcomes than non-comorbid patients.

Fontana, A., Rosenheck, R. & Desai, R. (2012). Comparison of treatment outcomes for Veterans with posttraumatic stress disorder with and without comorbid substance use/dependence. *Journal of Psychiatric Research, 46*(8), 1008-14.

Early prolonged exposure intervention may reduce chronic PTSD symptoms

Key Findings: A shortened prolonged exposure intervention (three sessions distributed one week apart) administered immediately following a trauma was shown to significantly reduce posttraumatic stress symptoms at four weeks and 12 weeks post-trauma compared to those who did not receive the intervention. The treatment group also showed significantly lower depressive symptoms four weeks post-trauma compared to the control group.
Study type: Randomized controlled study
Sample: 137 civilians who presented to an emergency department after a trauma
Implications: In situations where it is feasible to deliver a prolonged exposure treatment intervention immediately following a traumatic event, it may be beneficial in reducing posttraumatic stress and depressive symptoms. More research is needed to determine if reductions would persist longer than 12 weeks post-trauma, and also to determine who would benefit most from this intervention and the optimal window and number of sessions for the treatment, as well as examine mechanisms of change.

Rothbaum, B.O., Kearns, M.C., Price, M., Malcoun, E., Davis, M., Ressler, K.J., et al. (in press). Early Intervention May Prevent the Development of Posttraumatic Stress Disorder: A Randomized Pilot Civilian Study with Modified Prolonged Exposure. *Biological Psychiatry*.

Decreased adherence to medication in patients with PTSD

Key Findings: Patients with PTSD (35% of this sample) have lower overall medication adherence (taking medication as prescribed half of the time or less or forgetting/purposely skipping medication once a week or more) than patients without PTSD; these results, with the exception of forgetting medication, remained significant after accounting for demographics,

depression, comorbid medical illnesses, social support and alcohol use.
Study type: Cross-sectional study with clinical interviews and self-report assessments
Sample: 724 patients who accessed care at general outpatient clinics of two VA medical centers
Implications: PTSD was associated with lower medication adherence independent of other psychiatric or physical comorbidities, which may contribute to the increased morbidity and mortality seen in PTSD patients. Future research should focus on the role of cognitive and behavioral factors in non-adherence to medication, and clinicians should be cognizant of medication non-adherence when treating patients with PTSD.

Kronish, I.M., Edmondson, D., Li, Y. & Cohen, B.E. (in press). Post-traumatic stress disorder and medication adherence: Results from the Mind Your Heart Study. *Journal of Psychiatric Research.*

Marines may underreport symptoms on PDHRA

Key Findings: Marines who took both the non-anonymous Post-Deployment Health Reassessment (PDHRA) and a confidential research survey with a number of the same questions during a Transition Assistance Program (TAP) class underreported self-harming ideation and concern about harming others on the PDHRA by a ratio of about 14 to 1, although sample sizes were very small for those endorsing those symptoms on the PDHRA (e.g., one Marine endorsed self-harming ideation on the PDHRA vs. 15 endorsing symptom on the research survey).
Study type: Cross-sectional study with self-report anonymous and non-anonymous assessments
Sample: 355 U.S. Marines
Implications: Due to the non-anonymous nature of the PDHRA, Marines may be underreporting sensitive behavioral concerns, making the PDHRA ineffective screens for those concerns. This study had several limitations that warrant further research, including low sample sizes and an average of 47 days between administration of the two surveys, during which symptoms could change. Future studies should also focus on other screens in the PDHRA, including those for PTSD and depression.

Hourani, L., Bender, R., Weimer, B. & Larson, G. (2012). Comparative analysis of mandated versus voluntary administrations of post-deployment health assessments among Marines. *Military Medicine, 177*(6), 643-8.

Individual augmentees not at higher risk of post-deployment mental health problems

Key Findings: Analysis of U.K. individual augmentees (IAs) previously deployed to Iraq revealed no differences between the IAs and those deployed with a formed unit in terms of unit cohesion, PTSD symptoms, or symptoms of common mental disorders, such as depression and anxiety. IAs did report less alcohol misuse compared to those deployed with a formed unit.
Study type: Cross-sectional study with self-report assessments
Sample: 4,332 U.K. military personnel previously deployed to Iraq as an IA (n=1,352) or with a formed unit (n=2,980)
Implications: The findings suggest that deploying as an IA does not increase the risk of poor post-deployment mental health. In addition, IAs appeared to be able to integrate with the group with which they deployed, as levels of unit cohesion did not differ from those who deployed with a formed unit. Future studies confirming these findings with U.S. military personnel are warranted.

Sundin, J., Mulligan, K., Henry, S., Hull, L., Jones, N., Greenberg, N., et al. (2012). Impact on mental health of deploying as an individual augmentee in the U.K. Armed Forces. *Military Medicine, 177*(5), 511-16.

Reviews to Peruse

Berenz, E.C. & Coffey, S.F. (2012). **Treatment of Co-occurring Posttraumatic Stress Disorder and Substance Use Disorders.** *Current Psychiatry Reports, 14*(5), 469-77.

Lang, A.J., Strauss, J.L., Bomyea, J., Bormann, J.E., Hickman, S.D., Good, R.C., et al. (in press). **The Theoretical and Empirical Basis for Meditation as an Intervention for PTSD.** *Behavior Modification.*

Dunlop, B.W., Mansson, E. & Gerardi, M. (in press). **Pharmacological Innovations for Posttraumatic Stress Disorder and Medication-Enhanced Psychotherapy.** *Current Pharmaceutical Design.*

Partial PTSD patients improve faster than full PTSD patients

Key Findings: Veterans with full PTSD (meeting *DSM-IV-TR* cluster criteria) functioned more poorly and had greater symptoms of PTSD, depression and anxiety compared to those with partial PTSD (meeting *DSM-IV-TR* re-experiencing and hyperarousal cluster criteria, but having only 1-2 avoidance/numbing symptoms). Patients with partial PTSD lost their diagnosis significantly faster and at higher rates than those with full PTSD. This difference is largely due to comorbid symptoms in those with full PTSD rather than by differences in treatment for the two groups, which were minor. Both groups of patients received treatment of low intensity through the VA clinic: predominantly pharmacotherapy, with little to no usage of evidence-based therapies, such as prolonged exposure and cognitive processing therapy.
Study type: Prospective study with self-report assessments
Sample: 1,962 patients accessing care at a VA mental health clinic
Implications: The findings indicate that patients with full PTSD are a distinct population from those with partial PTSD, with full PTSD patients more likely to have a prolonged course of illness and need for intensive treatment, while those with partial PTSD will most likely improve on their own or with minimal treatment. Further research is needed to evaluate the effects of a 30-90 day "watchful waiting" period before treating partial PTSD as if it were full PTSD. Most importantly, the underuse of evidence-based treatments among those with full PTSD revealed by this study demonstrates a great need for the accurate assessment and timely triage of PTSD patients into effective treatments in order to alleviate suffering as quickly as possible.

Shiner, B., Bateman, D., Young-Xu, Y., Zayed, M., Harmon, A.L., Pomerantz, A., et al. (2012). Comparing the stability of diagnosis in full vs. partial posttraumatic stress disorder. *The Journal of Nervous and Mental Disease, 200*(6), 520-5.

Factors involved in mental health problems after separating from military

Key Findings: Marines who transitioned out of the military reported a slightly lower prevalence of mental health problems at follow-up (in civilian life for an average of six months) as compared to baseline before exiting the military, although more than 10% of respondents reported a new mental health problem with impairment at follow-up. Risk factors for having mental health problems with impairment at follow-up included combat exposure, post-separation stress in various life domains and post-separation pain at multiple sites, while protective factors included higher pre-separation resilience scores and higher perceived social support at follow-up.
Study type: Longitudinal cohort study with self-report assessments
Sample: 475 active-duty Marines transitioning out of the military
Implications: Resilience scores were only associated with mental health problems at follow-up when they came with functional impairment (reporting that poor mental health had kept them from doing their usual activities at least one day in the past 30 days), suggesting that resilience may protect against the impairment that comes with mental health problems but not the presence of such problems. The findings that low resilience, high stress and low social support are related to post-separation mental health problems with impairment indicate that the military should provide stronger training in resilience-building and stress-management skills and services that enhance post-separation social support, such as having "transition buddies" to promote healthy adjustment to civilian life.

Hourani, L., Bender, R.H., Weimer, B., Peeler, R., Bradshaw, M., Lane, M., et al. (2012). Longitudinal study of resilience and mental health in Marines leaving military service. *Journal of Affective Disorders, 139*(2), 154-65.

Shortened versions of PCL adequately track PTSD symptom change in primary care patients

Key Findings: Both the two-item and six-item abbreviated versions of the PTSD Checklist (PCL) displayed high sensitivity in detecting PTSD among primary care patients, and both versions were adequate indicators of reliable and clinically significant change in PTSD symptoms six and 12 months following treatment. Correlations among the two-item, six-item and full PCL versions were high, but the six-item version corresponded more closely to the full version.
Study type: Assessment utility study
Sample: 181 primary care patients diagnosed with PTSD
Implications: Previous research has shown that the two-item and six-item versions of the PCL are reasonable alternatives for PTSD screening in primary

care settings, and this study suggests that the six-item version is a good alternative for tracking progress across treatment when use of the full PCL is not feasible and is a better option than the two-item version in this situation.

Lang, A.J., Wilkins, K., Roy-Byrne, P.P., Golinelli, D., Chavira, D., Sherbourne, C., et al. (2012). Abbreviated PTSD Checklist (PCL) as a guide to clinical response. *General Hospital Psychiatry, 34*(4), 332-8.

PTSD and suicidality more common among previously deployed reservists

Key Findings: U.S. service members in the Reserve or National Guard who had been deployed reported higher rates of suicidal ideation and attempts than active-duty personnel who had been deployed. In addition, previously deployed reservists also reported higher rates of PTSD symptoms than any active-duty personnel and reservists who had not deployed.
Study type: Cross-sectional study with self-report assessments
Sample: 34,488 U.S. military personnel divided into two categories: reservists (n=18,342) and active-duty (n=16,146)
Implications: Deployment may differentially affect reservists compared to active-duty service members and, along with the challenges associated with being a "citizen soldier," may contribute to the higher prevalence of post-deployment PTSD symptoms and suicidality among reservists. These findings support increasing efforts aimed at facilitating successful reintegration and care for reservists post-deployment.

Lane, M.E., Hourani, L.L., Bray, R.M. & Williams, J. (2012). Prevalence of perceived stress and mental health indicators among reserve-component and active-duty military personnel. *American Journal of Public Health, 102*(6), 1213-20.

PTSD Criterion A2 not associated with PTSD diagnosis

Key Findings: Among U.S. veterans of multiple service eras who were exposed to any traumatic experience throughout their lives (combat or non-combat), PTSD Criterion A2 (responding to a traumatic event with intense fear, helplessness or horror) was not associated with being given a clinical diagnosis of PTSD. However, those who endorsed Criterion A2 reported greater PTSD symptom severity across the three symptom clusters (re-experiencing, avoidance and hyperarousal).
Study type: Cross-sectional study with self-report assessments
Sample: 908 U.S. military veterans with trauma exposure
Implications: The American Psychiatric Association has currently recommended eliminating Criterion A2 from the upcoming 5th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-5*). Findings from this study suggest that Criterion A2 may not be necessary for a PTSD diagnosis, although it was a predictor of greater PTSD symptom severity. Future research should investigate whether Criterion A2 should remain necessary for a PTSD diagnosis or if it would better serve as a potential indicator or symptom of PTSD.

Osei-Bonsu, P.E., Spiro, A. 3rd, Schultz, M.R., Ryabchenko, K.A., Smith, E., Herz, L., et al. (2012). Is DSM-IV criterion A2 associated with PTSD diagnosis and symptom severity? *Journal of Traumatic Stress, 25*(4), 368-75.

Imagery rehearsal beneficial for post-trauma nightmares, sleep quality and PTSD symptoms

Key Findings: Participants with post-trauma nightmares who were treated with imagery rehearsal (IR) therapy (includes sleep education, modifying dream narrative and imaginal rehearsal of new dream narrative) showed improvements in nightmare frequency, sleep quality and PTSD symptoms with large effect sizes, and the benefits persisted 6-12 months after treatment. Also, combining IR with cognitive behavioral therapy for insomnia resulted in greater improvement in sleep quality than IR alone but was not significantly different from IR alone on reducing nightmares and PTSD symptoms.
Study type: Meta-analysis
Sample: 13 studies investigating IR among civilians (n=286) or active-duty/veterans (n=225) with post-trauma nightmares
Implications: IR is a commonly used and well-supported cognitive behavioral intervention for posttraumatic nightmares and is effective in reducing nightmares and PTSD symptoms and improving sleep quality. It may be especially helpful in patients whose nightmares persist after receiving PTSD-directed therapy or who do not engage in such therapy as a result of stigma or avoidance symptoms. Randomized controlled studies are needed to compare the efficacy of IR with established PTSD treatments and to find out the benefits of each of the active components of IR to standardize treatment practice.

Casement, M.D. & Swanson, L.M. (2012). A meta-analysis of imagery rehearsal for post-trauma nightmares: Effects on nightmare frequency, sleep quality, and posttraumatic stress. *Clinical Psychology Review, 32*(6), 566-74.

Analysis of published post-deployment PTSD prevalence estimates

Key Findings: An analysis of published studies reporting various PTSD prevalence estimates among OEF/OIF veterans revealed that when taken together, the post-deployment PTSD prevalence among operational infantry units was 13.2% using strict criteria (PCL score of 50) to19.6% using sensitive criteria (PCL meeting *DSM-IV-TR* symptom-cluster criteria). Among population samples of OEF/OIF veterans (with a high proportion of support personnel not exposed to direct combat) measured by standard post-deployment assessments, the prevalence was 5.5% using strict criteria (PC-PTSD cutoff of 3) and 11% using sensitive criteria (PC-PTSD cutoff of 2).
Study type: Meta-analysis
Sample: 28 published studies with sample sizes of at least 200 reporting prevalence/incidence of PTSD among military personnel who served in Iraq or Afghanistan since 2001
Implications: The higher prevalence of post-deployment PTSD among personnel in operational infantry units compared to entire deployed populations is consistent with research indicating associations between direct combat exposure and PTSD symptoms. However, the prevalence estimates reported here are based on the estimates of the studies included in this analysis, which have a high degree of heterogeneity. Future prevalence estimates from meta-analyses that include additional studies could vary due to such factors as differences in study methodology, deployment location, unit differences in combat experiences, year of study, time of assessment, branch of service, anonymity of reporting on some surveys, demographic factors, and active and reserve component differences.

Kok, B.C., Herrell, R.K., Thomas, J.L. & Hoge, C.W. (2012). Posttraumatic stress disorder associated with combat service in Iraq or Afghanistan: reconciling prevalence differences between studies. *Journal of Nervous and Mental Disease, 200*(5), 440-50.

PDHRA mental health assessments effective for population-level screening

Key Findings: Assessments for PTSD, depression and alcohol abuse on the Post-Deployment Health Reassessment (PDHRA) all had excellent ability to accurately rule out each diagnosis among previously deployed soldiers when evaluated against the Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (SCID-I). However, the ability of the assessments to correctly identify those with each diagnosis was lower, consistent with the relatively low prevalence rates of each diagnosis in this population. In addition, the two questions regarding re-experiencing and hyperarousal symptoms on the PTSD assessment together yielded the best two-item screen for PTSD.
Study type: Assessment diagnostic efficiency study
Sample: 148 active-duty soldiers previously deployed to Iraq or Afghanistan who completed the PDHRA
Implications: The screens for PTSD, depression and alcohol abuse on the PDHRA seem to perform well in ruling out these diagnoses among service members, as would be expected for a population-level assessment. However, it is difficult for such population-level screens to accurately detect mental health conditions due to low prevalence rates, which makes meeting with a provider after the assessment even more important in identifying any problems. The finding of re-experiencing and hyperarousal symptoms comprising the best two-item screen for PTSD conflicts with previous findings of avoidance and numbing symptoms being more predictive of PTSD; further research is needed to clarify this discrepancy.

Skopp NA, Swanson R, Luxton DD, Reger MA, Trofimovich L, First M., et al. (in press). An Examination of the Diagnostic Efficiency of Post-Deployment Mental Health Screens. *Journal of Clinical Psychology.*

Post-deployment mental health training may reduce mental health symptoms

Key Findings: Soldiers who received a mental health training module (part of the Battlemind Training system) four months following an Iraq deployment reported lower PTSD and depression symptoms and higher life satisfaction six months later compared to those who completed a survey but did not receive the training. There were positive changes in attitudes about stigma and seeking mental health care immediately following the training, but these changes did not last, as they were not seen at follow-up.
Study type: Group randomized, controlled study with self-report assessments
Sample: 1,645 soldiers who recently returned from an Iraq deployment, assigned to receive either mental health training (N=804) or a survey only (N=841)
Implications: The one-hour post-deployment mental health training studied here emphasized how transition difficulties can be a natural consequence of having developed effective occupational coping skills related to combat and also included mental health self-checks and education on getting care. This training was well-received by soldiers previously deployed to Iraq and

resulted in fewer reported PTSD and depression symptoms and increased life satisfaction six months later. However, reductions in stigma-related attitudes toward seeking mental health care were transient. Further research is needed to confirm these findings and determine the ideal time point at which to administer mental health training post-deployment.

Castro, C.A., Adler, A.B., McGurk, D. & Bliese, P.D. (2012). Mental health training with soldiers four months after returning from Iraq: Randomization by platoon. *Journal of Traumatic Stress, 25*(4), 376-83.

Combining D-cycloserine with exposure therapy not effective for veterans with PTSD

Key Findings: Veterans given D-cycloserine (DCS) prior to brief imaginal exposure therapy (6 sessions) experienced higher distress symptoms and poorer PTSD outcomes over the course of treatment compared to the exposure therapy plus placebo group. After treatment, 30% of participants given DCS compared to 70% given placebo met criteria for responder status (reduction of 10 or more points on Clinician Administered PTSD Scale).
Study type: Randomized, double-blind, placebo-controlled trial with clinical interviews and self-report assessments
Sample: 26 OEF/OIF veterans with PTSD
Implications: Although DCS has been shown to improve response to exposure-based treatments for specific phobias and other anxiety disorders, its role in improving PTSD has not been promising. The authors suggest that these findings could be explained by insufficient fear extinction during therapy in the DCS group, which could potentially lead to DCS-enhanced reconsolidation of intense trauma memories. One additional finding of this study is that 50% of participants in the placebo group no longer met criteria for PTSD at 6-month follow-up, suggesting that even a short course of exposure therapy is beneficial among veterans who may not be able to attend a full course of cognitive behavioral therapy due to logistical and psychological barriers to care.

Litz, B.T., Salters-Pedneault, K., Steenkamp, M.M., Hermos, J.A., Bryant, R.A., Otto, M.W., et al. (2012). A randomized placebo-controlled trial of d-cycloserine and exposure therapy for posttraumatic stress disorder. *Journal of Psychiatric Research, 46*(9), 1184-90.

Test your knowledge!

According to the summary "Adaptive disclosure may be effective as a brief treatment for PTSD" (pg. 2), which of the following is true of adaptive disclosure?

A. It is a new, shorter therapy combining cognitive-processing and exposure therapies.

B. It addresses combat/operational service member experiences, such as traumatic loss and moral injury.

C. Marines who received adaptive disclosure reported reductions in PTSD and depression symptoms.

D. All of the above

Answer: D

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